We claim:

1. A high speed data transfer encoder that generates digital signals for transmission over a digital telephone network and an analog loop to a subscriber, comprising:

a signal processor;

a memory coupled to the signal processor, the memory storing a set of instructions that are executed by the signal processor to convert a source data stream into a sequence of codewords wherein each codeword in said sequence of codewords is associated with a codeword utilized by said digital telephone network.

2. The high speed data transfer encoder as claimed in claim 1, wherein said codewords utilized by said digital telephone network correspond to a set of quantization values applied in a line interface to the digital telephone network, said line interface being coupled to the signal processor.

3. The high speed data transfer encoder as claimed in claim 1 wherein converting the source data stream into the sequence of codewords comprises a serial to parallel conversion.

4. The high speed data transfer encoder as claimed in claim 1, wherein said digital telephone network codewords comprise .mu.-law encoded codewords.

5. The high speed data transfer encoder as claimed in claim 1, wherein said digital telephone network codewords comprise a set of 255 codewords.

6. A signal processor programmed with a set of instructions to perform a data transfer encoding method for communicating from the signal processor, to a subscriber, wherein said subscriber is connected to a digital network by an analog loop and said signal processor is connected through a digital connection to said digital network, wherein the method comprising the steps of:

selecting a subset of digital codewords from a set of digital network codewords, said digital network codewords corresponding to a set of quantization values applied at a line interface which couples said digital network to said analog loop;

converting a data stream at said signal processor into a sequence of digital codewords from said subset of digital codewords;

sampling said sequence of digital codewords at a predetermined rate; and

transmitting said samples through said digital connection to said digital network.

7. The signal processor as claimed in claim 6, wherein said digital network codewords comprise PCM representations of said quantization values.

8. The signal processor as claimed in claim 6 wherein converting said data stream into the sequence of digital codewords comprises a serial-to-parallel conversion.

9. The signal processor as claimed in claim 6, wherein said quantization values are mu.-law quantization values utilized by said digital network.

10. The signal processor as claimed in claim 6 wherein the digital codewords comprise a set of 255 codewords.

11. A high speed data transfer decoder for recovering a digital data stream from an analog signal transmitted to said decoder from a digital telephone network interface via an analog local loop connected to said decoder, comprising:

a signal processor; and

a memory coupled to the signal processor, the memory storing a set of instructions that are executed by the signal processor to generate a sequence of

codewords from the analog signal, wherein each codeword in said sequence of codewords is associated with a codeword utilized by said digital telephone network.

12. The high speed data transfer decoder as claimed in claim 11, wherein said codewords utilized by said digital telephone network correspond to a set of quantization values applied in a line interface that couples said digital telephone network to said analog loop.

13. The high speed data transfer decoder as claimed in claim 11, wherein said instructions cause said signal processor to apply a linear-to-mu.-law converter to said analog signal.

14. The high speed data transfer decoder as claimed in claim 11, wherein said signal processor converts said sequence of codewords into said digital data stream.

15. The high speed data transfer decoder as claimed in claim 14, wherein converting said sequence of codewords into said digital data stream comprises a parallel-to-serial conversion.

16. A signal processor programmed with a set of instructions to perform a data transfer decoding method, said method comprising the steps of:

receiving an analog signal representing a sequence of codewords; and

converting said analog signal into said sequence of codewords, wherein each codeword in the sequence of codewords is selected from a predetermined set of digital network codewords.

17. The signal as claimed in claim 16, wherein said digital network codewords correspond to a set of quantization values.

18. The signal processor as claimed in claim 17, wherein said quantization values are mu.-law quantization values utilized by said digital network

19. The signal processor as claimed in claim 16, wherein said signal processor converts said sequence of codewords into a digital data stream.

20. The signal processor as claimed in claim 19 wherein converting said sequence of codewords into said digital data stream comprises a parallel-to-serial conversion.